

## A New Species and a New Combination of *Thelypteris*, subgenus *Amauropelta*, section *Amauropelta* from Cuba

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ABSTRACT.—Revision of the Cuban species of *Thelypteris*, subgenus *Amauropelta*, section *Amauropelta* (Thelypteridaceae) resulted in a new species, *Thelypteris basisceletica*, characterized by subpetiolate laminae and up to 28 reduced proximal pinnae, which are deeply lobed and laciniate, with the lobes spreading, and proximally skeletal. In addition, we make the new combination, *T. balbisii* var. *longipilosa*. Illustrations as well as a key for the identification of the seven Cuban species in this group are also presented.

The genus *Thelypteris* Schmidels is the largest pteridophyte genus in Cuba with ca. 90 species, including the newly one described here. *Thelypteris* has a long and difficult nomenclatural history, and ferns with “thelypteroid” characteristics have been subdivided into several natural groups by many pteridologists. One of these groups is the subgenus *Amauropelta* (Kunze) A. R. Sm., which has nearly 200 species in the Neotropics (Smith, 1974, 1981a, 1981b, 1988; Proctor, 1985). Smith (1974) subdivided the subg. *Amauropelta* into nine sections: *Amauropelta*, *Adenophyllum*, *Phacelothrix*, *Uncinella*, *Blennocaulon*, *Pachyrachis*, *Lepidoneuron*, *Blepharitheca*, and *Apelta*. These are characterized by a combination of features including the orientation of the rhizomes (ascending vs. erect), the type and distribution of hairs and glands, and the presence or absence of aerophores and indusia (Tryon and Tryon, 1982).

Preparation of a thesis on *Thelypteris*, subgenus *Amauropelta*, section *Amauropelta* (Alvarez-Fuentes, 1995), necessitates the description of a new species. *Thelypteris basisceletica* is described and a new combination in *T. balbisii*, *T. balbisii* var. *longipilosa* is made.

***Thelypteris basisceletica*** C. Sánchez, Caluff & O. Alvarez, **sp. nov.** Fig. 1

A *T. scalpturoides* similis sed differt lamina sessili vel subpetiolati, stipitis 0.3–0.8 cm longis; lamina abrupte reducta cum pinnis inferioribus redactis acuminatis aliquot (paribus 16–28); rhachi pilis elongatis unicellularibus 0.8–1.1 mm longis, apicem versus pluricellularibus instructae; segmentibus basalibus majoribus quam ceteris, arcuatis, apice acuto in rhachi superposito, segmentibus basalibus basiscopicis auricula conspicua instructis; et indusiis reniformi ciliati et glanduloso.

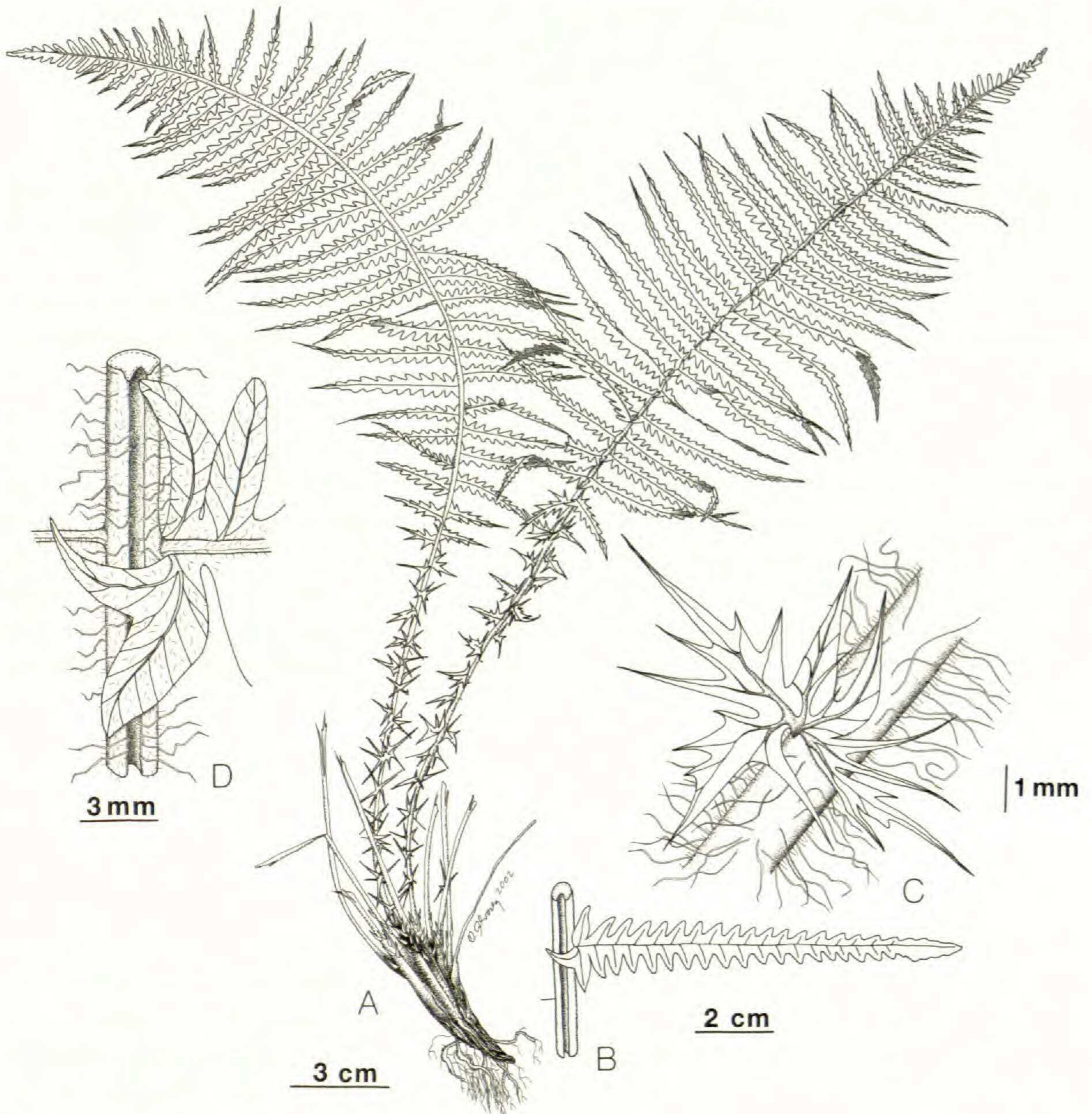


FIG. 1. *Thelypteris basisceletica*. A. Habit; B. Pinna; C. Basal reduced pinna; D. Basal segments (adaxial surface). A. Ekman 5188 (NY); B–D. Alvarez et al. 64440 (HAJB).

**TYPE**—Cuba. **Prov. Granma**: Buey Arriba, Pico La Bayamesa, 1700 m., 14 May 1988, Alvarez, Beurton, Gutiérrez, Mai, Günther, Meyer, Panfet, Rankin, Sánchez, & Schirarend 64440 (holotype: HAJB!).

*Plants terrestrial*.—Rhizomes ascending to erect, bearing numerous scales at the apices; scales dark brown, lanceolate-acuminate, pubescent, 7–12 mm long  $\times$  0.9–1 mm wide. Leaves fasciculate, 48–57 cm long. Petioles absent or short, 0.3–0.6 cm long  $\times$  0.1–0.3 cm diam, pubescent, the hairs 0.1–0.2 mm long, covered with many scales like those of rhizomes. Laminae pinnate-pinnatifid, herbaceous, lanceolate-attenuate, 40–57 cm long  $\times$  9–14 cm wide above the

middle, rapidly reduced downward. Rachises adaxially grooved, with numerous scales at base like those of rhizomes, stramineous, eglandular and pubescent; two types of hairs are present, short unicellular, 0.2–0.5 mm long, distributed along the rachis and long pluricellular, 0.8–1.1 mm long, toward its distal portion. Pinnae, 43–60 pairs, alternate to subopposite, lanceolate, deeply pinnatifid at apices, 5–7 cm long  $\times$  0.8–1.4 cm wide; basal 16–28 pinna pairs deeply lobed and laciniate, with the lobes spreading, the lowest minute and skeletal. Costae adaxially grooved, eglandular, uniformly pubescent along both sides, with strigulose hairs on margins of grooves; medial vein of segments pubescent on both surfaces, eglandular. Segments linear-oblong, slightly acute at apices, the margins entire or somewhat revolute, the basal segments larger than the rest, with acute apices, recurved and overlap the rachis, the basal basisopic segments with a conspicuously acuminate auricle; distance of costae to sinuses 0.2–0.6 mm above the middle of pinnae. Veins 5–8 pairs per segments, mostly simple, furcate in the basal segments, adaxially prominent, eglandular and puberulous. Tissue eglandular on both surfaces, puberulous adaxially, with short, strigulose hairs, glabrous abaxially. Sori rounded, sub marginal. Indusia reniform, persistent, brown reddish, ciliate, glandular at margins. Sporangia glabrous; spores monolete, the perispore partially reticulate with prominent and perforate folds.

DISTRIBUTION.—Endemic to the Cuban provinces of Granma and Santiago de Cuba.

HABITAT.—Shaded banks, in the understory of montane forests, on acidic soils, above 1,000 m.

MATERIAL EXAMINED.—CUBA. **Prov. Santiago de Cuba:** Corojo, Treinta Pinos, 29 Mar. 1915, *Ekman 5188* (NY, US); Loma del Gato, El Cobre, Sierra Maestra, Aug. 1927, *Clement 1729* (US); Picachos de la Alta Maestra, Jul. 1922, *León 11123* (HAJB, US); Pico Turquino, Sierra Maestra, 10 Jun. 1936, *Acuña 9962* (HAJB).

The etymology of the specific epithet refers to the skeletal shape of the reduced proximal pinnae. The species is similar to *T. scalpturoides* (Fig. 2 A–F), but *T. basisceletica* differs by having sessile leaves and a large number of deeply lobed and laciniate reduced proximal pinnae (16–28 pairs), the most inferior ones skeletal. *Thelypteris scalpturoides* has a distinct petiole and up to 14 pairs of trilobate, proximally reduced pinnae, the lowermost ones auriculate. The basal segments differ as well. *Thelypteris basisceletica* has recurved basal segments with acute apices that overlap the rachises and the basal basisopic segment of each pinna has a conspicuously acuminate auricle. In *T. scalpturoides* the proximal segments are straight and do not overlap the rachises, and the auricle of the basal basisopic segment is triangular and blunt.

The six remaining species of section *Amauropelta* that occur in Cuba are: *Thelypteris sancta* (L.) Ching (Fig. 3); *T. piedrensis* (C. Chr.) C. V. Morton (Fig. 4); *T. shaferi* (Maxon & C. Chr.) Duek (Fig. 2 G–J); *T. scalpturoides* (Fée) C. F. Reed; *T. resinifera* (Desv.) Proctor (Fig. 5 A–D) and *T. balbisii* (Spreng.)

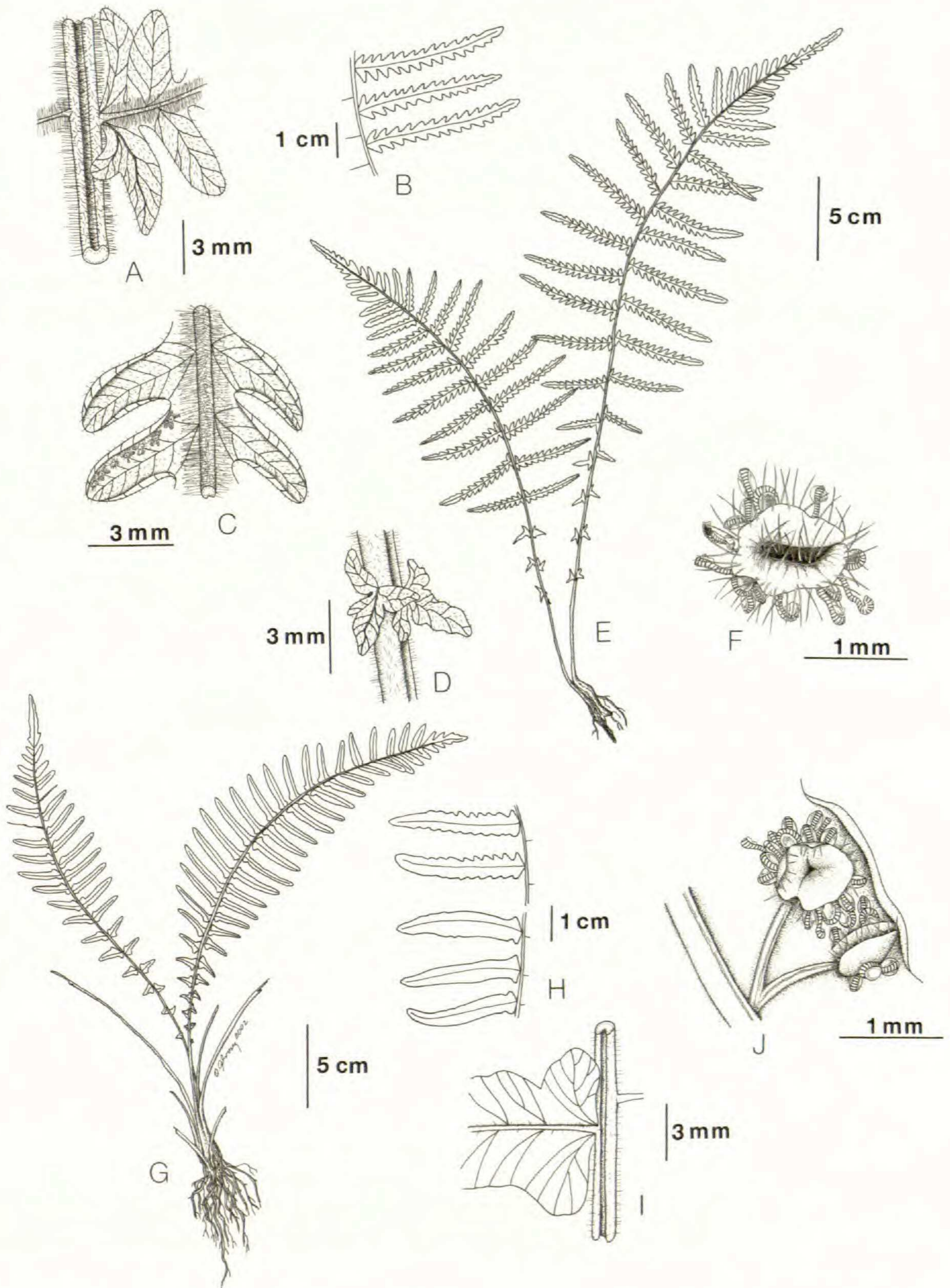


FIG. 2. A–F. *Thelypteris scalpturoides*. A. Basal segment (adaxial surface); B. Pinnae; C. Segments (abaxial surface); D. Basal reduced pinnae; E. Habit; F. Sorus showing indusium. G–J. *Thelypteris shaferi*. G. Habit; H. Pinnae; I. Base of a pinna (adaxial surface); J. Sori showing indusia. A–D. Gutiérrez, et al 25188 (HAJB); E, F. Wright 820 (GH); G–J. Alvarez, et al 56879 (HAJB).

Ching (Fig. 5 E–G). Most species occur in primary and secondary forests and their centers of distribution in Cuba are concentrated in the mountains of the eastern, central, and western regions, primarily at middle (180–500 m) to higher elevations (above 500 m), at the margins of rain forests, along trails, on wet roadside embankments, and along streams.

KEY TO THE CUBAN SPECIES OF *THELYPTERIS* SUBG. *AMAUROPelta*, SECT. *AMAUROPelta*

1. Laminae bipinnate, with free pinnules at least toward the bases of the larger pinnae.
  2. Basal segments of different lengths, basal acroscopic larger than the basal basisopic; scales at base of the petioles ovate and glabrous; proximal reduced pinnae deeply tripinnatisect; larger pinnae with 2 or 3 pairs of free pinnules . . . . . *T. sancta*
  2. Basal segments the same length; scales at base of petioles lanceolate and pubescent; proximal reduced pinnae pinnatifid; larger pinnae with no more than one pair of free pinnules . . . . . *T. piedrensis*
1. Laminae pinnate-pinnatifid, free pinnules lacking.
  3. Leaves subsessile; proximal reduced pinnae deeply lobed and lacinate, the lowermost pinnae becoming skeletal, 15–28 pairs . . . . . *T. basisceletica*
  3. Leaves petiolate; proximal reduced pinnae trilobate or pinnatifid, none skeletal, 3–14 pairs . . . . . 4
  4. Proximal pinnae trilobate; veins on the adaxial surface prominently raised; veins of basal segments furcate; leaf tissue eglandular or with scattered white sessile glands abaxially; aerophores absent.
    5. Pinnae hastate to sagittate, entire or incised  $\frac{1}{3}$  way to the costae; scales at base of petioles ovate to ovate-lanceolate; leaf tissue glabrous on both surfaces; indusia ciliate . . . . . *T. shaferi*
    5. Pinnae pinnatifid, incised  $\frac{1}{2}$  to  $\frac{3}{4}$  way to the costae; scales at base of petioles linear-lanceolate; leaf tissue pubescent at least on the adaxial surface; indusia pubescent . . . . . *T. scalpturoides*
  4. Proximal pinnae pinnatifid; veins on the adaxial surface complanate; veins of basal segments simple; leaf tissue with numerous sessile and reddish resinous glands abaxially; aerophores present.
    6. Proximal pinnae gradually reduced; segments falcate, apices truncate; septate hairs absent . . . . . *T. resinifera*
    6. Proximal pinnae abruptly reduced; segments perpendicular to the costae, apices acute; septate hairs present . . . . . *T. balbisii*

In 1937, Christensen used differences in type, distribution, and size of hairs to delimit three varieties in *Dryopteris sprengelii* (= *Thelypteris balbisii*): *D. sprengelii* var. *typica*, *D. sprengelii* var. *mollipilosa*, and *D. sprengelii* var. *longipilosa*. At present, no varieties are recognized for *T. balbisii*; however, we believe that the morphological features of the indument are distinctive enough to distinguish two varieties of this species. These are differentiated as follows.

1. Plants with unicellular hairs only or with both unicellular and pluricellular hairs; pluricellular hairs, 0.3–0.4 mm long, along the margins of the rachis and costa grooves only . . . . . *T. balbisii* var. *balbisii*
1. Plants with both unicellular and pluricellular hairs; pluricellular hairs, 0.9–1.5 mm long, along all surfaces of the rachis and costae . . . . . *T. balbisii* var. *longipilosa*

A number of unique features characterize the species: pinnae perpendicular to the rachises, segments perpendicular to the costae; 10–19 pairs of veins per

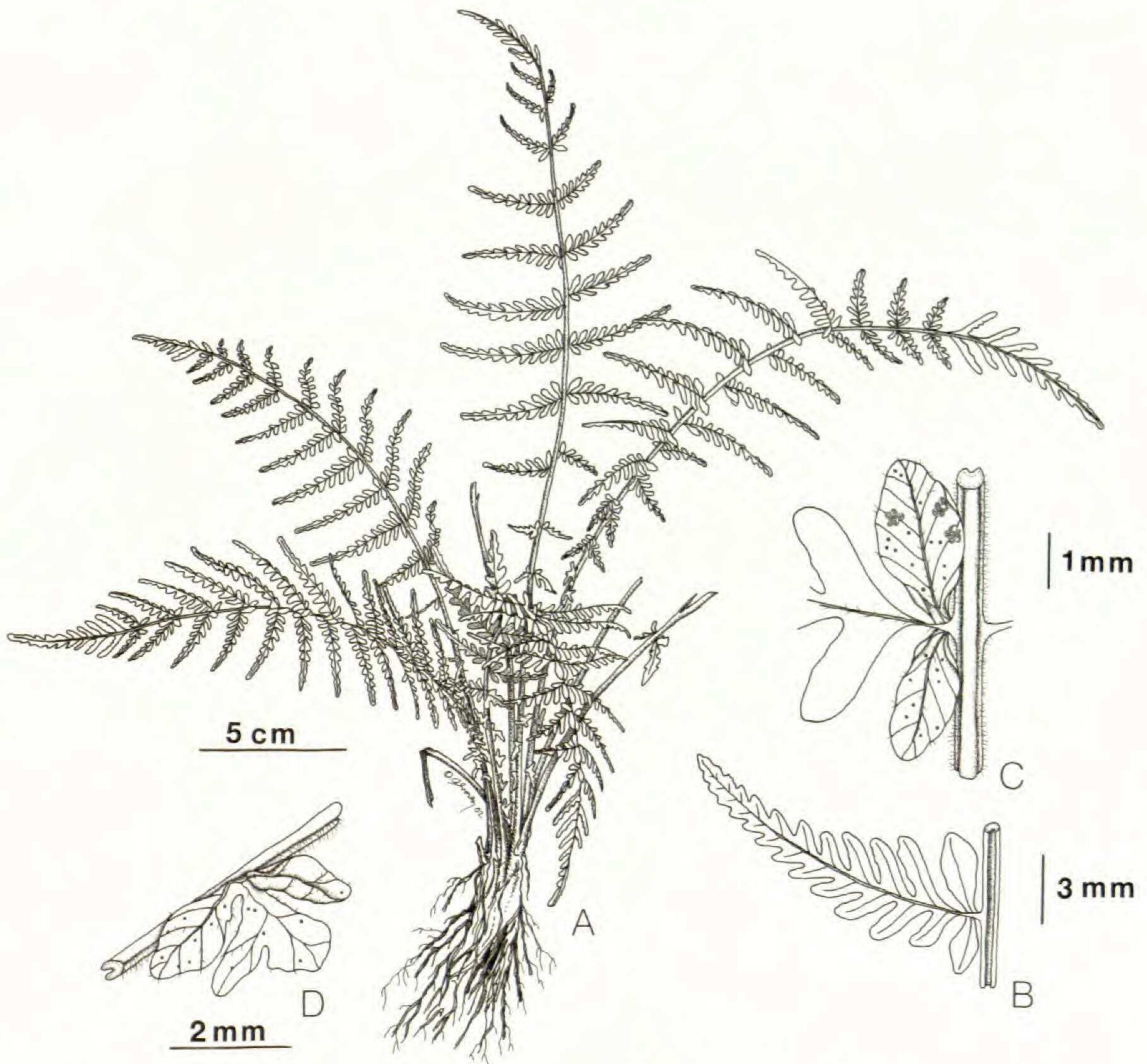


FIG. 3. *Thelypteris sancta*. A. Habit; B. Pinna; C. Basal segments (abaxial surface); D. Basal reduced pinna. A–D. Alvarez, et al 55494 (HAJB).

segment (vs. 3–7 (8) in the other Cuban species of this section); abruptly reduced proximal pinnae; and aerophores at the bases of the largest pinnae. Glandular, hyaline hairs are abundant on the rachises and costae and sessile resinous glands are found on the abaxial surfaces.

*Thelypteris balbisii* (Spreng.) Ching var. *balbisii*, Bull. Fan Mem. Inst. Biol., Bot. 10:250. 1941.

*Polypodium balbisii* Spreng., Nova Acta Phys.-Med. Acad. Caes. Leop.-Carol. Nat. Cur. 10:228. 1821. *Dryopteris balbisii* (Spreng.) Urb., Symb. Antill. 4:14. 1903.—Type: Puerto Rico, *Bertero s.n.* (as *Bertier fide* Morton, 1963)-lost; Neotype (designated by Proctor, 1977): Dominica. Along Castle Bruce track, vicinity of north bases of Trois Pitons, 600 m, 17-Feb-1940, *Hodge & Hodge 1203* (GH!)

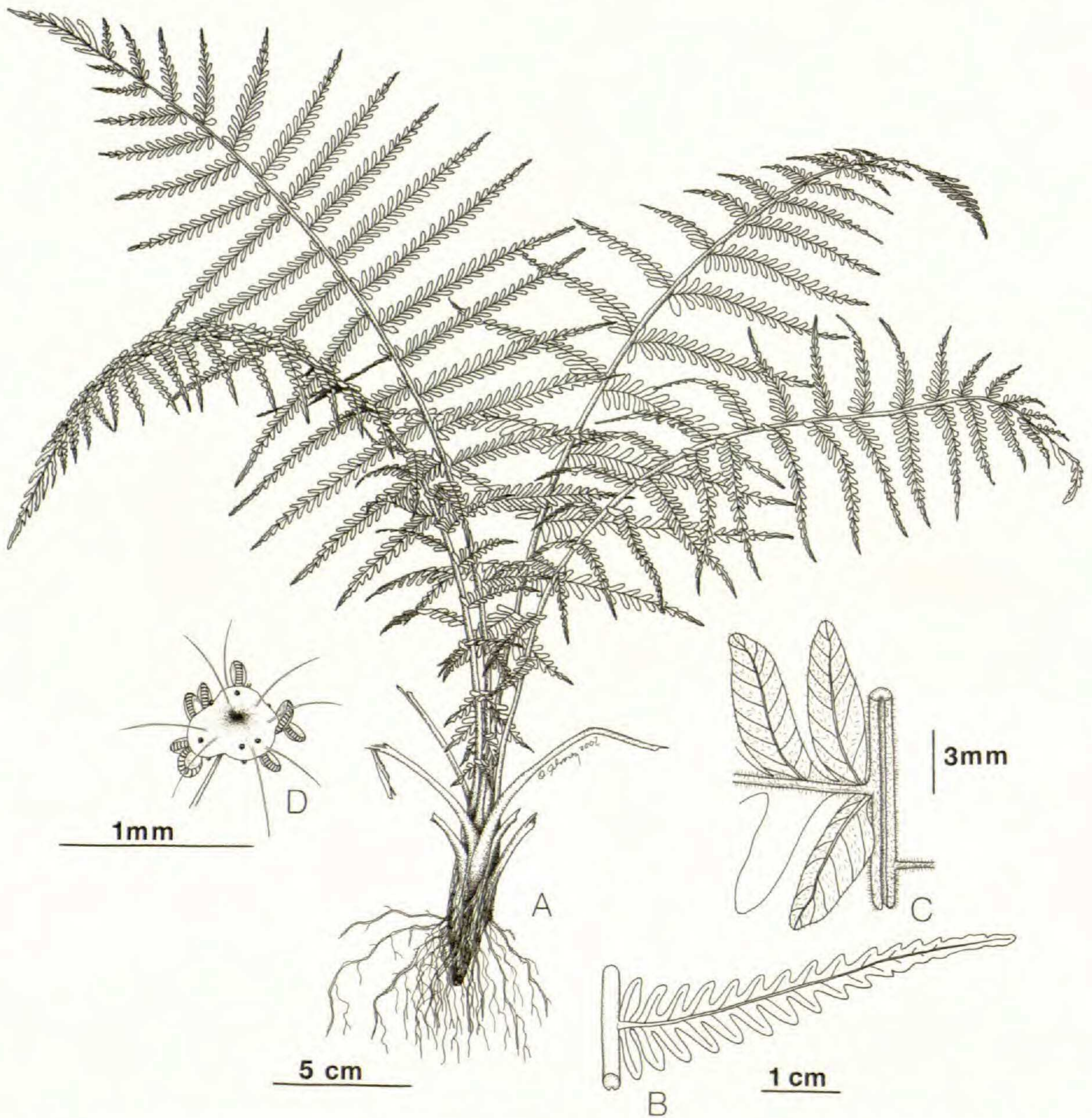


FIG. 4. *Thelypteris piedrensis*. A. Habit; B. Pinna; C. Basal segments (adaxial surface); D. Sorus showing indusium. A–D. Caluff 51654 (HAJB).

*Aspidium sprengelii* Kaulf., Flora (Regensburg) 6:365. 1823. *nom. illeg.*  
*Dryopteris sprengelii* (Kaulf.) Kuntze, Rev. Gen. Pl. 2:813. 1891.—Type:  
 Martinique. Sieber 355 (holotype: B?).

*Nephrodium sherringii* Jenman, J. Bot. 17:261. 1879.—Type: Jamaica. Jenman  
 1, in 1879, without exact locality (holotype: K).

*Dryopteris sprengelii* var. *mollipilosa* C. Chr., Kongl. Svenska Vetenskapsakad.  
 Handl. Ser. 3; 16:23. 1937.—Lectotype (here designated): Hispaniola. Haiti.  
 Dept. Du Nord: Massif du Nord, slope of Morne Salnave, 1 May 1928, Ekman  
 H 9928 (S!).

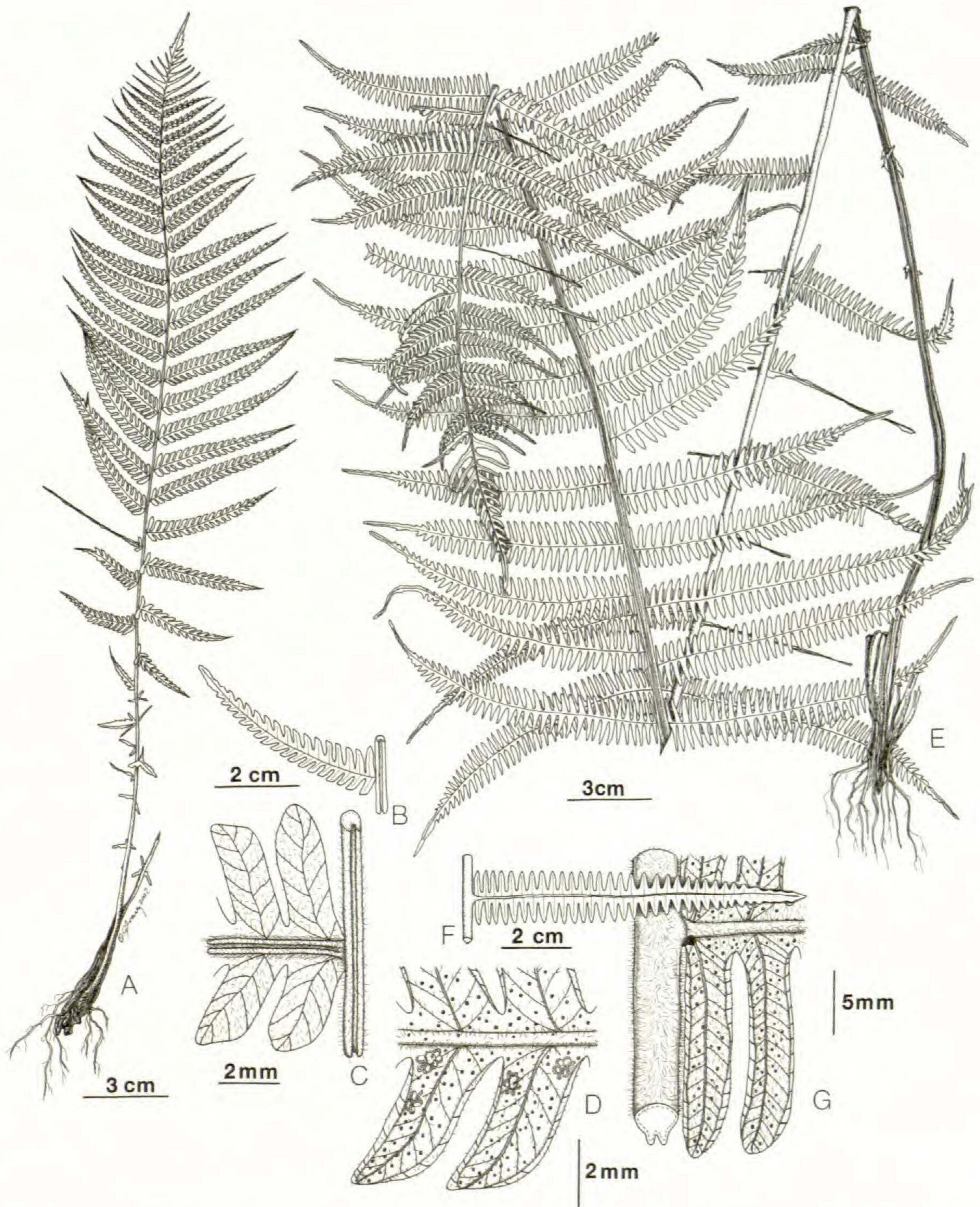


FIG. 5. A–D. *Thelypteris resinifera*. A. Habit; B. Pinna; C. Basal segments (adaxial surface); D. Segments (abaxial surface). E–G. *Thelypteris balbisii*. E. Habit; F. Pinna; G. Basal segments (abaxial surface). A. Wright 820 (GH); B–D. Arias, et al 59755 (HAJB); E. Hodge & Howard 4692 (GH); F, G. Bässler, et al 61015 (HAJB).

*Thelypteris balbisii* var. *balbisii* (Fig. 6 A, B) is variable in pubescence along the rachises, costae, and leaf tissue. The acicular (unicellular) hairs range from 0.2 to 0.8 mm long; the longest of these hairs are located in the adaxial grooves of rachises and costae. If septate (pluricellular) hairs, 0.3–0.4 mm long, are present,



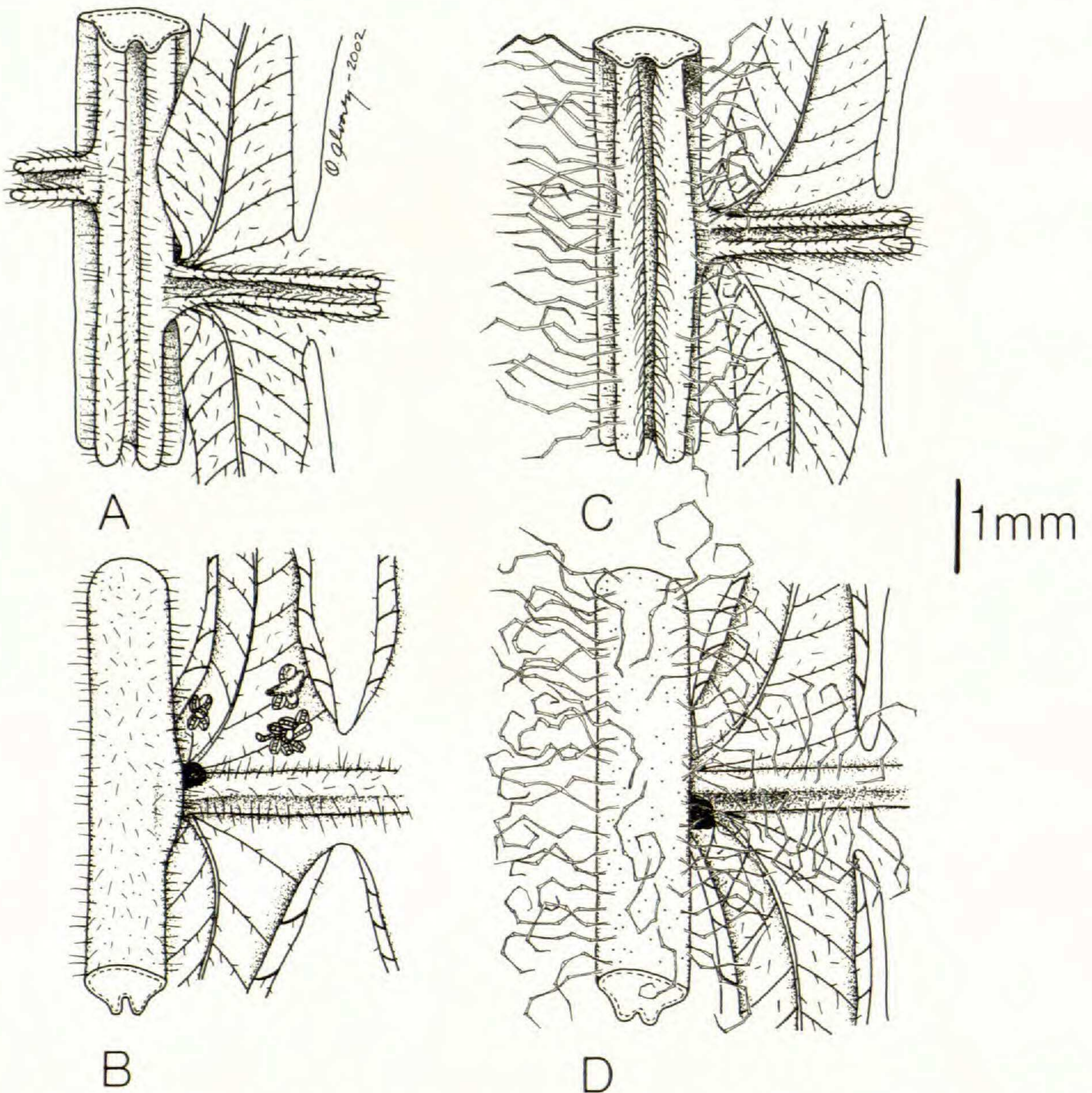


FIG. 6. A–D. Basal segments in *Thelypteris balbisii*. A, B. *T. balbisii* var. *balbisii*. A. Adaxial surface; B. Abaxial surface; C, D. *T. balbisii* var. *longipilosa*. C. Adaxial surface; D. Abaxial surface. A, B. Bässler et al. 61015 (HAJB); C, D. Bässler et al. 60558 (HAJB).

these are strigullose and distributed along the margins of the grooves only. Variety *balbisii* also has numerous, minute, glandular hairs on rachises and costae.

Following Sprengel's death in 1833, the material of his herbarium was dispersed (Morton, 1963). This event led Christensen (1907) to misplace the epithet *balbisii* as a variety of *Dryopteris sancta* (L.) Kuntze, and this was followed by many authors. Morton (1963) gave a detailed explanation for such misplacement and emphasized the fact that *Polypodium balbisii* is easily distinguishable from the original description; although the location of the holotype remains uncertain. According to Morton (1963), Christensen made two errors. The first was to suggest that *P. balbisii* was merely a variety of

*D. sancta* (Christensen, 1907), probably because he saw a specimen collected by Bertero at Berlin and took it as the holotype of *P. balbisii*. Obviously, the Bertero specimen seen by Christensen in Berlin was *D. sancta* instead of the type specimen of *P. balbisii*. The second error (Morton 1963) was taking up the epithet *sprengelii* used by Kaulfuss in his description of *Aspidium sprengelii* Kaulf. Morton (1963) wrote: "It is clear that Kaulfuss was merely renaming *Polypodium balbisii* Spreng. in transferring the species to genus *Aspidium*". Kaulfuss not only cited Sprengel's name as a synonym, but his description of *A. sprengelii* is only a modification of the original one of *P. balbisii* (see Morton, 1963). *Aspidium sprengelii* Kaulf., published in 1823, is illegitimate because it was a superfluous synonym of *Polypodium balbisii* Spreng., published in 1821. Therefore, *Dryopteris sprengelii* (Kaulf.) Kuntze is an illegitimate name because the earliest available specific epithet was not adopted (Morton, 1963); and all the infraspecific epithets based on it are not validly published. The combination *Dryopteris balbisii* was made by Urban in 1903 based on *Polypodium balbisii* Spreng. (Morton, 1963). Ching (1941; as cited in Morton, 1963) published the restoration of the correct name *Thelypteris balbisii* (Spreng.) Ching, and Proctor (1977) assigned *W. H. & B. T. Hodge 1203* as the neotype for *Polypodium balbisii* indicating that the name was typified following the description of the species assuming that the original specimen type of *P. balbisii* no longer exists.

Christensen (1937) cites four specimens in his original treatment of *Dryopteris sprengelii* var. *mollipilosa*. All four were collected by E. L. Ekman from the Dominican Republic and Haiti. We chose *Ekman H 9928* as lectotype because it has the features described by Christensen (1937), including soft pubescence on the laminae and short upright hairs between veins on the abaxial surfaces. We decided not to make the combination *T. balbisii* var. *mollipilosa* because there are no morphological differences between Christensen's var. *mollipilosa* and his var. *typica* (= *T. balbisii* var. *balbisii*) instead we added it in the synonymy.

**DISTRIBUTION.**—Greater and Lesser Antilles, Tobago, Trinidad, Mexico, Central America to northern South America, Ecuador (including the Galapagos Islands), Peru and Brazil. In Cuba, it is found in the provinces of Cienfuegos, Sancti Spiritus, Granma, Holguín, Santiago de Cuba, and Guantánamo.

**HABITAT.**—Shaded banks as well as in full sun, on acidic soils, at elevations between 500 and 1,000 m.

**MATERIAL EXAMINED.**—CUBA. **Prov. Cienfuegos:** Trinidad Mountains, San Blas-Buenos Aires, Arroyito de Jinblito, 15 Feb. 1942, *Gonzáles 585* (GH); Trinidad Mountains, San Blas-Buenos Aires, shady ravine bank one mile towards hills, Aug. 1940, *Hodge & Howard 4692* (GH). **Prov. Sancti Spiritus:** Banao, camino entre el monumento de Cantú y Tope de La Diana, 26 Oct. 1986, *Arias et al. 59824* (HAJB), *59828* (HAJB). **Prov. Granma:** Buey Arriba, Pico Verde, 21 May 1988, *Alvarez et al. 64880* (HAJB); Buey Arriba, Pico Arriba, 21 May 1988, *Alvarez et al. 64968* (HAJB); Río Nuevo Mundo, La Bayamesa, 17 Mar. 1987, *Caluff 2352* (HAJB). **Prov. Holguín:** Baracoa, plants of cooper's ranch, base of El

Yunque Mt., Mar. 1903, *Underwood & Earle* 517 (NY), 1423 (NY); Cafetales, 4 km al suroeste de El Culebro en la zona de Brazo Grande, 11 Apr. 1987, *Bässler et al.* 61015 (HAJB); Moa, La Mella, 3 Mar. 1985, *Leyva et al.* 58236 (HAJB); Moa, Km 26 de la carretera de La Melba, orillas del arroyo, cerca del caserío viejo, 2 Apr. 1990, *Oviedo, Berazaín et Sánchez* 69040 (HAJB); Sierra de Cristal, aserrío Palenque, entre aserrío y Río Cabonico, 2 May 1981, *Bisse et al.* 45348 (HAJB). **Prov. Santiago de Cuba:** Sierra Maestra, Río Oro, at the edge of the river, 5 May 1916, *Ekman* 7240 (NY). **Prov. Guantánamo:** Monte Verde, Jan–Jul. 1859, *Wright* 822 (GH, HAC).

HAITI. **Dept. Du Sud:** Massif de la Hotte, western group, Camp Perrin, northern slope of Morne Vandervelde, 10 Jun. 1917, *Ekman* H 102 (S).

DOMINICAN REPUBLIC. **Prov. Puerto Plata:** Puerto Plata, Loma Isabel de Torres, Cordillera Septentrional, 16 Mar. 1930, *Ekman* H 14432 (S).

JAMAICA. **St. Andrew:** On open rocky bank beside the Moresham River, 31 Jan. 1950, *Proctor* 3908 (IJ); Along Ginger River, 1.5 miles E.S.E. Brandon Hill, 21 Feb. 1967, *Proctor* 27808 (IJ). **St. Catherine:** Vicinity of Hollymount, Mount Diablo, 26 Feb. 1950, *Proctor* 4059 (IJ); Juan de Bolas District, W Point Hill, 18 Jul. 1952, *Proctor* 6973 (IJ). **Clarendon:** 1 mile northwest of Thompson town, 4 Apr. 1952, *Proctor* 6523 (IJ); Near Tweedside School, 2 miles ESE of Alston P.O., 10 Jun. 1952, *Proctor* 6775 (IJ); Mason River Savanna, 2.75 miles due NW of Kellits P.O., 5 Apr. 1950, *Proctor* 26338 (IJ); Summit of Bull Head Mountain, 25 Sept. 1976, *Proctor* 36389 (IJ). **Westmoreland:** 2 1/2 miles WNW of Hopewell, 21 Nov. 1955, *Proctor* 11216 (IJ); Copse Mountain woods, c. 1 mile SW of Rat Trap, 23 Oct. 1960, *Proctor* 21468 (IJ); Mountain spring, 1.3 miles due NW of Lambs River, 20 Apr. 1978, *Proctor* 37757 (IJ). **Hanover:** Dolphin Head, 20 Aug. 1952, *Proctor* 7157 (IJ). **Trelawny:** Cockpit country, ca. 5 miles north of Quick Step, above Aberdeen P.O., 6 Mar. 1950, *Proctor* 4101 (IJ). **St. Ann:** Ca. 1 mile south of Blackstoned edge P.O., 12 Dec. 1950, *Proctor* 5078 (IJ). **Portland:** Ca. 5 miles SW of Priestmans river, 16 Apr. 1950, *Proctor* 4265 (IJ); North slope of Pumpkin Hill, ca. 3 miles southwest of Fellowship P.O., 25 Nov. 1950, *Proctor* 5001 (IJ). **St. Thomas:** Corn Puss Gap, 11 Feb. 1950, *Proctor* 3982 (IJ); Rowlands Field District, southeast slope of the John Crow Mountains, 18 Mar. 1952, *Proctor* 6416 (IJ).

*Thelypteris balbisii* var. *longipilosa* (C. Chr.) C. Sánchez, O. Alvarez & Caluff, **comb. nov.** Fig. 6 C, D.

*Dryopteris sprengelii* var. *longipilosa* C. Chr., Kongl. Svenska Vetenskapsakad. Handl., Ser. 3, 16:23.1937.—Type: Hispaniola. Haiti: Massif de La Hotte, western group, Torbec, Les Platons, at the source, 700 m, 25 December 1926, *Ekman* H 7416 (holotype: S!; isotype: US!)

*Thelypteris balbisii* var. *longipilosa* (Fig. 6 C, D) has pubescent rachises, costae and leaf tissue. This variety differs from var. *balbisii* in having long, 0.9–1.5 mm, septate hairs densely distributed along the rachis and costae (vs. either the lack of septate hairs in var. *balbisii*, or septate hairs no more than 0.4 mm long and distributed only along the adaxial grooves of the rachis and costae).

DISTRIBUTION.—Cuba, Hispaniola and Jamaica. In Cuba, it is found in the provinces of Granma, Holguín, Santiago de Cuba, and Guantánamo.

HABITAT.—Moist shaded banks, along trails at elevations between 500 and 1,000 m.

MATERIAL EXAMINED.—CUBA. **Prov. Granma:** Sierra Maestra, Buey Arriba, Alto de La Gloria, cerca del poblado de Buey Arriba, Aug. 1988, *Zavaro et al.* 68614 (HAJB). **Prov. Holguín:** Frank País, falda norte de la Sierra Cristal, alrededor del arroyo en la subida a Palenque, Brazo Grande, 4 Apr. 1987, *Bässler et al.* 60558 (HAJB). **Prov. Santiago de Cuba:** Gran Piedra, en sitios expuestos, cerca de cañadas, 21 Aug. 1992, *Caluff & Shelton* 3316 (BSC, HAC); Gran Piedra, Río de la Reserva de la Academia de Ciencias de Cuba (ACC), 18 Nov. 1994, *Sánchez et al.* 71326 (HAJB). Lado arriba de la Vía Mulata, márgenes del Río Barbudo, desde el terraplén de Jagüeyes hasta la casa de Rafael Navarro, 1992, *Caluff & Shelton* s.n. (HAJB). **Prov. Guantánamo:** Cañadas entre Viento Frío y Limbano, lado arriba de la Vía Mulata, 17 Apr. 1992, *Caluff & Shelton* s.n. (HAJB).

JAMAICA. **Portland.** East slope of the John Crow Mountains, ca. 1 mile southwest of Ecclesdown, 22 Mar. 1951, *Proctor* 5663 (IJ). **Saint Mary.** Along lower course of the Ugly River, 7 Feb. 1951, *Proctor* 5369 (IJ). **Saint Thomas.** Along trail south from Corn Puss Gap toward Bath, 29 Jan. 1950, *Proctor* 3902 (IJ).

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